

U.S. Patent Application Serial No. 09/911,823  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

**REMARKS**

Claims 1-23 are currently being considered, none of which have been amended. No new claims have been added. Applicants believe that no new matter has been introduced.

Claims 1-23 stand rejected under 35 USC 102(e) as anticipated by USP 6,006,110  
(**Raleigh**).

Applicants respectfully traverse this rejection.

The invention set forth in claim 1 is intended to solve a specific problem unique to the conventional extrapolation processing as will be described in the following.

More specifically, in view of the fact that when there is an estimation error in the reception response vector estimated for the up link because of a noise in the reception signal or sampling error there would be an error in the result of extrapolation according to the conventional extrapolation processing, the invention of claim 1 is configured to estimate the propagation environment of the propagation path, select the parameter corresponding to the estimated propagation path among the plurality of the parameters which have been held, and applies the selected parameter to the extrapolation processing.

U.S. Patent Application Serial No. 09/911,823  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

**Raleigh** is completely silent about such unique extrapolation processing of the invention of claim 1.

**Raleigh** fails to describe, teach, or suggest the following features of claim 1: “a selecting unit estimating the propagation environment of said propagation path, selecting a parameter corresponding to said estimated propagation environment among said held plurality of parameters, and applying the selected parameter to extrapolation process by said extrapolation processing unit”, in combination with the other claimed features.

Thus, Applicants respectfully submit that the rejection of claims 1-9 should be withdrawn.

Claim 10 claims the Doppler frequency estimating circuit itself estimating the Doppler frequency of the propagation path between the specific terminal and the radio equipment.

**Raleigh** fails to disclose such Doppler frequency estimating circuit as claimed in claim 10 of the subject application. It appears that the **Raleigh** reference discloses the adapted channel estimation filter coefficients based on the Doppler shift which is apparently different from the estimation of the Doppler frequency of the invention of claim 10. In other words, it appears that the **Raleigh** reference does not perform the estimation of the Doppler frequency.

U.S. Patent Application Serial No. 09/911,823  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

**Raleigh** fails to describe, teach, or suggest the following features of claim 10: “In a radio equipment changing antenna directivity on real time basis and transmitting/receiving signals time divisionally to/from with a plurality of terminals, a Doppler frequency estimating circuit estimating Doppler frequency of a propagation path with a specific terminal, comprising: ... an estimating unit estimating a Doppler frequency corresponding to the vector correlation value calculated by said correlation operating unit, based on correspondence between vector correlation values and Doppler frequencies determined in advance experimentally”, in combination with the other claimed features.

Thus, Applicants respectfully submit that the rejection of claims 10-16 should be withdrawn.

**Raleigh** fails to describe, teach, or suggest the following features of claim 17: “a Doppler frequency estimating unit estimating a Doppler frequency of said propagation path, ... a selecting unit selecting a parameter corresponding to said estimated Doppler frequency among said held plurality of parameters and applying the selected parameter to the extrapolation process by said extrapolation processing unit, ... an estimating unit estimating a Doppler frequency corresponding to the vector correlation value calculated by said correlation operating unit, based on correspondence between vector correlation values and Doppler frequencies determined in advance experimentally”, in combination with the other claimed features.

U.S. Patent Application Serial No. **09/911,823**  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

Thus, Applicants respectfully submit that the rejection of claims 17-23 should be withdrawn.

In view of the aforementioned remarks, claims 1-23 are in condition for allowance, which action, at an early date, is requested.

Applicants respectfully notes the following two issues pertaining to Information Disclosure Statements that have been filed.

- I. Applicants filed an Information Disclosure Statement (IDS) on August 13, 2003 that inadvertently included some incorrect information. Next, Applicants filed a **corrected** Information Disclosure Statement on September 24, 2003. The corrected IDS filed September 24, 2003 is intended to replace the IDS filed August 13, 2003. However, the Examiner unfortunately labeled the corrected IDS filed September 24, 2003 as a "**DUPLICATE**". It appears that the Examiner has not yet considered the information set forth in the corrected IDS filed September 24, 2003. The Examiner has not yet initialed, signed, and dated the corrected IDS filed September 24, 2003. **Thus, Applicants respectfully request that the Examiner consider the information shown on the corrected IDS filed September 24, 2003, and initial, sign, and date the corrected IDS filed September 24, 2003.**

U.S. Patent Application Serial No. 09/911,823  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

**II.** Applicants filed an Information Disclosure Statement (IDS) on November 6, 2003 that inadvertently included some incorrect information. Next, Applicants filed a **corrected** Information Disclosure Statement on January 6, 2004. The corrected IDS filed January 6, 2004 is intended to replace the IDS filed November 6, 2003. However, the Examiner unfortunately labeled the corrected IDS filed January 6, 2004 as a "**DUPLICATE**". It appears that the Examiner has not yet considered the information set forth in the corrected IDS filed January 6, 2004. The Examiner has not yet initialed, signed, and dated the corrected IDS filed January 6, 2004. **Thus, Applicants respectfully request that the Examiner consider the information shown on the corrected IDS filed January 6, 2004, and initial, sign, and date the corrected IDS filed January 6, 2004.**

U.S. Patent Application Serial No. **09/911,823**  
Amendment filed December 23, 2004  
Reply to OA dated September 9, 2004

In the event that this paper is not timely filed, Applicants respectfully petition for an appropriate extension of time. Please charge any fees for such an extension of time and any other fees which may be due with respect to this paper, to Deposit Account No. 01-2340.

Respectfully submitted,

ARMSTRONG, KRATZ, QUINTOS,  
HANSON & BROOKS, LLP



Darren R. Crew  
Attorney for Applicants  
Reg. No. 37,806

DRC/llf  
Atty. Docket No. **010901**  
Suite 1000  
1725 K Street, N.W.  
Washington, D.C. 20006  
(202) 659-2930



**23850**

PATENT TRADEMARK OFFICE

Enclosure: Petition for Extension of Time